

WHAT IS CLAIMED IS:

1. A method for providing access to a wireless network system, wherein the wireless network system includes a plurality of wireless access points coupled to a network, the method comprising:

5 a first wireless access point receiving identification information from a portable computing device in a wireless manner, wherein the portable computing device and the first wireless access point communicate using wireless Ethernet, wherein the identification information indicates a VLAN, wherein the first wireless access point is 10 operable to implement a plurality of possible VLANs;

10 the first access point receiving data from the portable computing device in a wireless manner;

15 the first access point using the indicated VLAN to provide the data received from the portable computing device to a destination.

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2. The method of claim 1, further comprising:

determining a first network provider for the portable computing device after receiving the identification information;

20 wherein the first access point provides the data received from the portable computing device to the destination based on the determined first network provider.

3. The method of claim 2, wherein the first network provider is determined based on the indicated VLAN.

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4. The method of claim 1, wherein said identification information comprises a digital certificate.

5. The method of claim 1, wherein said identification information comprises an IEEE 802.11 system identification.

6. The method of claim 1, wherein said identification information comprises a media access control (MAC) identification.

5 7. The method of claim 1, wherein said identification information comprises a known geographic location of the portable computing device.

10 8. A method for providing access to a wireless network system, wherein the wireless network system includes a plurality of wireless access points coupled to a network, the method comprising:

a first wireless access point receiving identification information from a portable computing device in a wireless manner, wherein the portable computing device and the first wireless access point communicates using wireless Ethernet, wherein the identification information indicates at least one VLAN;

15 determining a network provider for the portable computing device after receiving the identification information;

the first access point receiving data from the portable computing device in a wireless manner;

20 the first access point using the at least one VLAN to provide the data received from the portable computing device to a destination based on the determined network provider.

25 9. A method for providing access to a wireless network system, wherein the wireless network system includes a plurality of wireless access points coupled to a network, the method comprising:

a first wireless access point receiving identification information from a portable computing device in a wireless manner, wherein the portable computing device and the first wireless access point communicates using wireless Ethernet, wherein the

identification information indicates a network provider of a plurality of possible network providers;

5 determining the network provider for the portable computing device based on the identification information;

the first access point receiving data from the portable computing device in a wireless manner;

providing the data received from the portable computing device to a destination based on the determined network provider.

10 10. The method of claim 9, wherein the wireless network system includes a memory medium which stores a data structure comprising a list of identification information indicating one or more network providers of the plurality of possible network providers;

15 wherein said determining the network provider for the portable computing device includes accessing the memory medium and using the received identification information to determine the network provider.

11. The method of claim 10, wherein the data structure comprises a Management Information Base.

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12. The method of claim 10, wherein the data structure stores a destination address indicating a destination specified by the network provider;

wherein said providing the data comprises providing the data to the destination specified by the network provider.

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13. The method of claim 9, wherein the network system includes a memory medium which stores a data structure comprising a list of identification information, a corresponding list of the plurality of possible network providers, and associated methods for providing data to the respective plurality of possible network providers;

wherein said determining the network provider for the portable computing device includes accessing the memory medium, using the received identification information to determine the network provider, and using an associated method for providing the data to the network provider.

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14. The method of claim 9, wherein the wireless network system comprises a management information base (MIB) coupled to the network, wherein the MIB stores a data structure comprising a list of identification information indicating one or more network providers of the plurality of possible network providers;

10 wherein said determining the network provider for the portable computing device includes accessing the MIB and using the received identification information to determine the network provider.

15. The method of claim 14, wherein the data structure stores a destination address indicating a destination specified by the network provider;

wherein said providing the data comprises providing the data to the destination specified by the network provider.

16. The method of claim 9, wherein said identification information comprises a digital certificate.

17. The method of claim 9, wherein said identification information comprises an IEEE 802.11 system identification.

25 18. The method of claim 9, wherein said identification information comprises a media access control (MAC) identification.

19. The method of claim 9, wherein said identification information comprises a known geographic location of the portable computing device.

20. A method for providing selective access to network resources in a distributed wireless network system, wherein the wireless network system includes a plurality of access points coupled to a network, wherein the plurality of access points are 5 arranged at known locations in a geographic region, the method comprising:

a first access point receiving identification information from a portable computing device;

the first access point providing geographic location information indicating a known geographic location of the portable computing device;

10 determining a charge for the portable computing device to gain access to the network provider based on the identification information and the known geographic location of the portable computing device.

21. The method of claim 20, wherein the identification information received 15 from the portable computing device indicates a first network provider of a plurality of possible network providers;

wherein said determining a charge for the portable computing device is based on the first network provider and the known geographic location of the portable computing device.

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22. The method of claim 20, wherein said first access point includes a memory medium which stores a data structure comprising a list of identification information entries indicating one or more network providers of the plurality of possible network providers and a list of geographic locations indicating discounts;

25 wherein the identification information received from the portable computing device indicates a first network provider of a plurality of possible network providers;

wherein said determining a charge for the portable computing device is based on the first network provider and the known geographic location of the portable computing device.

23. The method of claim 20, wherein said identification information comprises a digital certificate.

5 24. The method of claim 29, wherein said identification information comprises an IEEE 802.11 system identification.

25. The method of claim 20, wherein said identification information comprises a media access control (MAC) identification.

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26. A network system, comprising:

a network;

one or more wireless access points coupled to the network, wherein each of one or more wireless access points is operable to communicate using wireless Ethernet with one or more computing devices, wherein each of the one or more wireless access points is configured to receive identification information from a computing device of the one or more computing devices indicating a network provider of a plurality of possible network providers, wherein each of the one or more wireless access points includes a memory medium which stores a data structure, wherein the data structure comprises a list of 15 identification information entries and corresponding network providers, wherein each entry indicates a respective network provider of the plurality of possible network providers;

wherein each of the one or more access points is operable to determine the network provider indicated by the identification information;

25 wherein, in determining the network provider for the portable computing device, each of the one or more access points is operable to access the memory medium and use the received identification information to determine the network provider;

wherein network access is provided to the computing device through the indicated network provider.

27. The network system of claim 26, wherein the data structure further stores a respective network provider for each identification information entry;

5 wherein, in determining the network provider for the computing device, each of the one or more wireless access points is operable to index into the data structure using the identification information to determine the network provider stored in the data structure corresponding to the identification information.

28. The network system of claim 26, wherein said identification information 10 comprises an IEEE 802.11 system identification.

29. The network system of claim 26, wherein said identification information comprises a media access control (MAC) identification.

15 30. The network system of claim 26, wherein said identification information comprises a known geographic location of the portable computing device.

31. The network system of claim 26, wherein said identification information comprises a digital certificate.

20 32. The network system of claim 26, wherein a subset of the one or more portable computing devices are portable computing devices.

25 33. The network system of claim 26, wherein at least a subset of the one or more wireless access points are operable to concurrently use a plurality of radio frequency (RF) channels.

34. The network system of claim 33, wherein a first wireless access point of the subset is operable to assign one or more RF channels for communication with a computing device.

5 35. The network system of claim 34, wherein the first wireless access point is operable to assign the RF channel based on the identification information received from the computing device.

10 36. The network system of claim 34, wherein the first wireless access point is operable to assign the RF channel based on the determined network provider.

15 37. The network system of claim 34, further comprising:
wherein the first wireless access point is operable to determine an access level for the computing device after receiving the identification information; and
wherein the first wireless access point is operable to assign a RF channel for communication with the computing device based on the determined access level.

20 38. The network system of claim 34, wherein the first wireless access point is operable to concurrently:
communicate with a first computing device of the one or more computing devices using a first RF channel of the plurality of RF channels;
communicate with a second computing device of the one or more computing devices using a second RF channel of the plurality of RF channels.

25 39. The network system of claim 38, wherein the first RF channel and the second RF channel are different RF channels.

40. The network system of claim 39, wherein the first RF channel and the second RF channel are non-overlapping RF channels.

41. The network system of claim 33, wherein at least a subset of the identification information entries each indicate at least one RF channel.

5 42. The network system of claim 41, wherein the indicated RF channel is used in providing network access.

43. The network system of claim 33, wherein the data structure further stores a respective RF channel for each identification information entry;

10 wherein, in determining the network provider for the computing device, each of the subset of the one or more wireless access points is operable to index into the data structure using the identification information to determine the RF channel stored in the data structure corresponding to the identification information;

15 wherein each of the subset of the one or more wireless access points is operable to assign a RF channel indicated by the data structure for each identification information entry.

44. A wireless access point for providing network access to one or more computing devices, wherein the access point is operable to be coupled to a network, 20 wherein the wireless access point is operable to communicate with a computing device of the one or more computing devices, wherein the wireless access point is configured to receive identification information from the computing device indicating a network provider of a plurality of possible network providers, wherein the wireless access point includes a memory medium operable to store a data structure, wherein the data structure 25 comprises a list of identification information entries and corresponding network providers, wherein each entry indicates a respective network provider of the plurality of possible network providers;

wherein the wireless access point is operable to determine the network provider indicated by the identification information;

wherein, in determining the network provider for the computing device, the wireless access point is operable to access the memory medium and use the received identification information to determine the network provider;

5 wherein the wireless access point is operable to provide data received from the computing device to a destination based on the determined network provider;

 wherein network access is provided to the computing device through the destination.

45. The wireless access point of claim 44, wherein the wireless access point is
10 useable by subscribers of each of the plurality of possible network providers.

46. The wireless access point of claim 44, wherein the determined network provider charges for access by the computing device to the network.

15 47. The wireless access point of claim 44, wherein the data structure further comprises associated methods for providing data to the respective plurality of possible network providers;

20 wherein, in determining the network provider for the computing device, the wireless access point is operable to access the memory medium, use the received network provider identification information to determine the network provider, and use an associated method for providing the data to the determined network provider.

25 48. The wireless access point of claim 44, wherein the identification information comprises a System ID of the computing device, wherein the System ID uniquely identifies a network provider of the plurality of possible network providers.

49. The wireless access point of claim 44, wherein the wireless access point is operable to provide the data to the destination in a secure manner.

50. The wireless access point of claim 44, wherein the wireless access point is at a known location in a geographic region, wherein the wireless access point is operable to provide geographic location information indicating a known geographic location of the computing device;

5 wherein network access is selectively provided to the computing device based on the known geographic location of the computing device.

51. The wireless access point of claim 44, wherein at least a subset of the identification information entries each indicate at least one VLAN.

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52. The wireless access point of claim 51, wherein each VLAN specifies a network provider.

15 53. The wireless access point of claim 52, wherein the indicated VLAN is used in providing network access.

54. The wireless access point of claim 44, wherein said identification information comprises a digital certificate.

20 55. The wireless access point of claim 44, wherein said identification information comprises an IEEE 802.11 system identification.

56. The wireless access point of claim 44, wherein said identification information comprises a media access control (MAC) identification.

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57. The wireless access point of claim 44, wherein said identification information comprises a known geographic location of the computing device.

58. The wireless access point of claim 44, wherein the wireless access point is operable to provide the data to the destination utilizing Layer 2 forwarding.

59. The wireless access point of claim 44, wherein at least a subset of the 5 identification information entries each indicate at least one tunneling protocol, wherein the wireless access point is operable to provide the data to the destination utilizing a tunneling protocol.

60. The wireless access point of claim 59, wherein the tunneling protocol is 10 PPTP.

61. The wireless access point of claim 59, wherein the tunneling protocol is 15 IPSEC.

62. The wireless access point of claim 59, wherein the tunneling protocol is 20 GRE.

63. The wireless access point of claim 59, wherein the tunneling protocol is IP-in-IP.

64. The wireless access point of claim 44, wherein the wireless access point is operable to provide the data to the destination utilizing a tagged VLAN.

65. The wireless access point of claim 44, wherein the computing device is a 25 portable computing device.